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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

DEC 16 1992

In the Matter of
Advanced Television Systems
and Their Impact upon the
Existing Television Broadcast
Service

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

MM Docket No. 87-268

**Reply Comments of the
NATIONAL ASSOCIATION OF BROADCASTERS**

The National Association of Broadcasters ("NAB")¹ hereby submits reply comments to the Second Further Notice of Proposed Rule Making² ("Second Further Notice") in the above-referenced proceeding. NAB was a party to the Comments on the Second Further Notice filed by the Joint Broadcasters in this proceeding on November 16, 1992, which we continue to fully support. In these reply comments, NAB discusses (1) the effects of limiting ATV allotments to the UHF band and (2) interference issues associated with allocating TV Channel 6 for ATV with respect to the FM radio service.

I. Using Only UHF-TV Spectrum Would Result in ATV Service Far Inferior to That Produced by Using Both VHF and UHF Spectrum and Offers No Practical Benefits For Consumers.

In the Second Further Notice, the Commission stated its "preliminary view that the implementation of ATV service would be enhanced if all ATV operations were located in the same area of the spectrum, in particular, the UHF band."³ The Joint Broadcaster Comments

¹ NAB is a nonprofit, incorporated association of radio and television broadcast stations and networks. NAB serves and represents America's radio and television stations and all the major networks.

² MM Docket No. 87-268, Second Further Notice of Proposed Rule Making, FCC 92-332 (released Aug. 14, 1992).

³ Second Further Notice at ¶ 17.

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persuasively illustrated that all-UHF ATV leads to smaller ATV service areas, higher NTSC interference (especially to existing UHF stations) and substantial cost penalties to stations allotted a VHF ATV channel during the conversion period.⁴ This was echoed by other commenters as well.⁵ The unavoidable conclusion is that all-UHF ATV is not an acceptable allotment solution if the judging criteria are maximum ATV service area and minimum interference to the existing NTSC service. For this reason alone, the Commission's all-UHF ATV proposal should be discarded.

However, the Commission also expressed in the Second Further Notice that all-UHF ATV can be justified because it would lead to more affordable equipment for consumers, stating that "use of a single contiguous band would simplify the design of TV receivers and antennas by removing the need for tuning signals in more than one band. These simplifications could be expected to lower the cost of consumer TV receiver system equipment."⁶ NAB believes that any practical benefits to consumers resulting from the use of a single contiguous band for ATV would not be available at all for many years and, even then, would be negligible.

The Joint Broadcaster Comments pointed out that significant production of single band tuners would not happen for many years since NTSC VHF signals will be transmitted for the entire conversion period.⁷ This was reinforced in NAB's Reply Comments to the Commission's Further Notice of Proposed Rule Making, filed on August 17, 1992, which state that it is virtually certain that all manufacturers of ATV receivers will also include full

⁴ See generally, Joint Broadcaster Comments in MM Docket No. 87-268, filed November 16, 1992, ("Joint Broadcaster Comments") at 19-23.

⁵ See, for example, Comments of GHTV Inc., SCI Television Inc. and Busse Broadcasting Corporation in MM Docket 87-268, filed November 16, 1992 at 6-7; Comments of Fisher Broadcasting Inc. in MM Docket 87-268, filed November 16, 1992 at 7-13; Comments of H & C Communications Inc. in MM Docket 87-268, filed November 16, 1992 at 3-4; and Comments of Hogan and Hartson on Behalf of 25 Television Stations in MM Docket 87-268, filed November 16, 1992 at 9-10.

⁶ Second Further Notice at ¶ 17.

⁷ Joint Broadcaster Comments at 23.

NTSC reception capability in their initial ATV products.⁸ Also, even with all-UHF ATV as an assumed goal, VHF-capable tuners would be necessary during the conversion period since some VHF allotments will be required for full accommodation, as evidenced by the 17 VHF ATV allotments included in the Sample Table of ATV Allotments presented in the Second Further Notice.⁹ In addition, the Consumer Electronics Group of the Electronic Industries Association noted in their comments that VHF tuners will continue to be necessary since televisions will continue to be designed to interface with cable television facilities and cable television will continue to use VHF channels, regardless of decisions on ATV spectrum for terrestrial broadcasting.¹⁰

But most importantly, the practical benefits to consumers of single band ATV tuners are illusory, regardless of when they can be made available. While it is true that a single band UHF tuner can be less expensive to manufacture than a mixed band VHF/UHF tuner, the relative cost of the tuner compared to the total cost of an ATV receiver renders negligible the difference between UHF and VHF/UHF tuning ability. CEG-EIA quantifies this cost difference, stating that the savings in removing the need for tuning signals in more than one band would be just a few dollars in terms of manufacturers' costs.¹¹ CEG-EIA concludes that "limiting ATV allotments to UHF frequencies is not likely to generate any significant benefits in terms of cost or complexity of consumer equipment."¹²

The relative cost of the tuner section compared to the overall cost of an ATV receiver can be gleaned from a report recently released by a working party of the FCC Advisory Committee.¹³ The purpose of this study was to estimate the cost of ATV receivers in the

⁸ See Reply Comments of NAB in MM Docket No. 87-268, filed August 17, 1992 at 5.

⁹ Second Further Notice at ¶ 19.

¹⁰ See Comments of the Consumer Electronics Group of the Electronic Industries Association, in MM Docket 87-268, filed November 16, 1992 ("CEG-EIA Comments") at 2.

¹¹ CEG-EIA Comments at 2.

¹² CEG-EIA Comments at 3.

¹³ FCC Advisory Committee on Advanced Television Service Systems Subcommittee Working Party Three on Economic Assessment (SS/WP3), "Advanced Television Receiver Cost," October 1992.

year 1998, assuming that 1% market penetration had been achieved. Based on the data in that report, the manufacturing cost estimates for tuners for each proponent ATV system are shown in the following table along with the overall cost estimate for ATV receivers (both 34" direct view CRT and 56" CRT projection set cost estimates were developed). In addition, the calculated percentage of total manufacturing cost represented by the tuner is shown.

	Narrow-MUSE	Digi-Cipher	DSC-HDTV	AD-HDTV	CC-DC
Tuner cost	\$10	\$13	\$10	\$13	\$13
34" CRT set cost	\$1048	\$978	\$1009	\$1006	\$1017
Tuner cost as % of 34" set cost	1.0%	1.3%	1.0%	1.3%	1.3%
56" proj. set cost	\$1564	\$1494	\$1537	\$1522	\$1545
Tuner cost as % of 56" set cost	.6%	.9%	.6%	.9%	.8%

The table shows that tuner cost represents on the order of 1% of the total cost of manufacturing an ATV receiver. The difference in cost between a VHF/UHF and a UHF-only tuner would therefore represent a savings of only a fraction of one percent of the total cost of manufacturing an ATV receiver. Clearly, the Commission's argument that simplifications resulting from UHF-only ATV "could be expected to lower the cost of consumer TV receiver system equipment" is not persuasive when the actual probable savings are viewed in context of the actual cost to consumers for ATV receivers.

Thus, turning to an all-UHF ATV allocation plan cannot be justified on the basis of lower consumer costs nor can it be justified on the basis of providing maximum ATV service area and minimum NTSC interference. The only salient basis for an all-UHF ATV plan is the eventual clearing of the VHF band to accommodate other uses. It is hard, however, to justify

smaller ATV service areas, stations' loss of viewers, increased NTSC interference and re-allocation and re-conversion of many ATV VHF stations for the putative value of a clear VHF band for use some twenty or more years hence. With the high value consumers place on broadcast television programming reception and service, it would seem wiser for the Commission to focus on the best ATV and NTSC service for the public and rely on both the VHF and UHF bands to provide the highest quality and widest distribution of both new and existing television service. There is thus no justifiable reason to restrict the choice of ATV spectrum to only the UHF band. The Commission should abandon its all-UHF ATV proposal and allow all of the available spectrum in the VHF and UHF television bands to be considered for ATV.

II. The Commission Should Not Use Channel 6 for ATV Without Thorough Investigation of Interference Effects of ATV To and From FM Radio Service.

The Commission proposes to allot TV Channel 6 for ATV only when another readily available and acceptable channel is not available. In addition, the Commission proposes to apply a standard similar to that in the Commission's Rules (sections 73.207(c), 73.525 and 73.610(f)) which currently protect against interference between NTSC Channel 6 and FM radio.¹⁴

NAB agrees with the Commission that protection against possible interference is needed from TV Channel 6 operations to FM radio service on FM channel 253 (98.5 MHz) and to TV Channel 6 from FM radio service on FM channels 201-220 (88.1 to 91.9 MHz).¹⁵ However, interference effects between ATV and FM radio are likely to be quite different from those associated with NTSC and FM radio, considering the vastly different spectral profiles of ATV and NTSC. Further, FM-ATV interference has not been investigated thoroughly in laboratory tests nor is it planned in field tests being organized by the FCC Advisory

¹⁴ Second Further Notice at ¶ 45.

¹⁵ Second Further Notice at ¶ 45.

Committee. Until FM-ATV interference effects have been studied, understood and tested, appropriate regulations for protection from interference will remain unknown. NAB agrees with the Commission that allotting Channel 6 should be avoided wherever possible. However, NAB believes that Channel 6 should not be allotted at all for ATV until, and unless, exhaustive interference studies have been conducted.

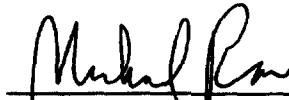
III. Conclusion.

The Commission should abandon its proposal to restrict ATV allotments to the UHF band. All-UHF ATV would severely handicap broadcasters by offering smaller ATV service areas, increased NTSC interference and higher costs for some stations. The cost benefits to consumers of single band ATV tuners are non-existent in practical terms.

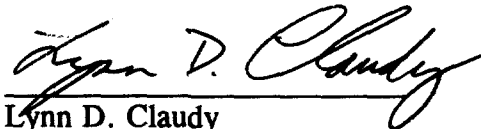
Interference effects between ATV on Channel 6 and FM radio service have not been investigated. Until thorough investigations have been completed, Channel 6 should not be allotted for ATV.

Respectfully submitted,

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